

REMARKS

The Office Action and cited references have been reviewed. Claims 1-44 are rejected and remain pending. Claims 3, 4, 10, 27, 28, and 39 have been amended. Support for the amendments is found generally within the application and specifically as noted below. Consideration of the pending claims is respectfully requested.

Objection to Drawings under 37 C.F.R. §1.83(a)

The Examiner objected to the drawing figures under 37 C.F.R. § 1.83(a). In particular, the Examiner indicated that “the inner diameter of the initial start position is smaller than the inner diameter of the throat nozzle, the initial start position being downstream of the throat nozzle” in Claims 3 and 32 must be shown in the drawings. The Examiner has also indicated that the same language as recited in Claim 43 must be shown in the drawings. It is assumed that the Examiner meant Claim 38, and not Claim 43, and this response to the Examiner’s objection is based on this assumption.

FIG. 6 has been amended to add reference 29 to indicate that an inner diameter of the initial start position is downstream of the nozzle throat. As recited in each of Claims 3, 32, and 38, an inner diameter 29 of the initial start position, which is downstream of the nozzle throat and has the smaller diameter, and an inner diameter of the nozzle throat are now both clearly shown in FIG. 6. Therefore, the Examiner is requested to approve the accompanying replacement drawings. No new matter has been entered or added.

Rejection of Claims under 35 U.S.C. §112

The Examiner has rejected Claims 10, 28, and 39 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Claims 10, 28, and 39 have been amended to more clearly define the invention.

Each of Claims 10, 28, and 39 now generally recite the limitation, as illustrated in FIG. 2, that the inlet passage starts adjacent to the inlet pipe, that the inlet passage is configured to generate a flow path that is eccentric to the inlet pipe, and that the flow path immediately adjacent to the inlet pipe is as far away as possible from an outlet flange. Support for the claim amendments is particularly found in paragraph [0027] of the

application. In light of the claim amendments, it is respectfully requested that the rejection be withdrawn.

Rejection under 35 U.S.C. §102

The Examiner has rejected Claims 1-8, 11, 16, 17, 19-23, 35, 37, 38-40, 42, and 44 under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. App. No. 4,413,646 to Platt et al. (hereinafter “Platt”). This ground of rejection is respectfully traversed. Reconsideration of the rejection in view of the following comments is respectfully solicited.

It is axiomatic in the patent law that to reject a claim under 35 U.S.C. §102, each and every limitation must be found, expressly or inherently, in a single reference and arranged as required by the claims such that the reference discloses the identical invention. *See* MPEP 2131. Anticipation is not established if, in reading a claim on something disclosed in a reference, it is necessary to pick, choose, and combine various portions of the disclosure not directly related to each other by the teachings of the reference. *See Ex parte Beuther*, 71 USPQ2d 1313 (BdPatApp&Int 2003), citing *In re Arkley*, 172 USPQ 524, 526 (CCPA 1972). A reference applied as anticipatory of the claimed invention under 35 U.S.C. §102 must be enabling so as to place one of ordinary skill in the art in possession of the claimed invention. *See Akzo N.V. v. United States Int’l Trade Commission*, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986) cert. denied, 482 U.S. 909, (1987); *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990). As explained in the often-cited treatise *Chisum on Patents* “to constitute an anticipation, a printed publication must describe the invention. The description must be adequate to a person with ordinary skill in the art to which the invention pertains. By the weight of authority, the description must enable such a person not only to comprehend the invention but also to make it.” That is, in order for a reference to be used to construct an anticipation rejection under 35 U.S.C. §102, the reference must enable one of skill in the art to make and use the claimed invention. *See Bristol-Meyers Squibb Co. v. Ben Venue Laboratories, Inc.* 246 F.3d 1368, 1374, 58 USPQ2d 1508 (Fed. Cir. 2001). Specifically, “even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling.” *Paperless Accounting, Inc. v. Bay Area Rapid Transit Sys.*, 804 F.2d 659, 665, 231 USPQ 649, 653 (Fed. Cir. 1986).

It is respectfully submitted that Platt does not disclose or suggest the invention claimed by Claims 1-8, 11, 16, 17, 19-23, 35, 37, 38-40, 42, and 44, and therefore cannot anticipate these claims because it fails to teach each and every limitation required by these claims as is required by 35 U.S.C. §102 and explained below.

The Office Action has rejected independent Claim 1 and indicated that Platt discloses “a nozzle throat (the step on the contoured surface above element 23).” It is respectfully submitted that the “step” as the Examiner asserts is not, as clearly described by Platt, the nozzle throat. In Col. 3, lines 37-43, as well as FIGS. 1 and 2, Platt specifically refers to element 18 as the throat. The “step” as the Examiner has asserted that element is actually a portion of the nozzle throat 18 indicated by Platt to be a neck 23. Platt specifically states in Col. 3, lines 38-40, that “[t]he plug 25 is shown seated flush against the neck 23 of throat 18 in FIG. 1, and is shown in a withdrawn position from neck 23, as depicted in FIG. 2”. Therefore, as described and depicted in the figures, the neck 23 is an uppermost portion of the throat nozzle 18. As such, it is respectfully submitted that Platt discloses, moving in a direction from downstream to upstream, a nozzle throat 18, and then a neck 23, and then a converging contoured restriction 15. In other words, the nozzle throat 18 and the converging contoured restriction 15 are interrupted and separated by a stepped portion, namely the neck 23. The Examiner appears to acquiesce to the fact that the contoured restriction is upstream of the stepped portion by defining the contoured restriction as the “portion of element 15 above neck 23 in figure 2” in paragraph five of the Office Action. Thus, Platt undoubtedly teaches a stepped portion upstream of the nozzle throat, which clearly teaches away from a converging contoured restriction upstream of the nozzle. Modifying the stepped portion to be a converging contoured restriction would change Platt’s principle of operation. Such a modification is prohibited by the M.P.E.P. (See M.P.E.P. 2143.01).

On the other hand, Claim 1 recites a converging contoured restriction, and not a stepped portion, upstream of the nozzle throat. In comparing Platt to Claim 1, the former teaches a stepped portion upstream of the nozzle throat while the latter teaches a converging contoured portion upstream of the nozzle throat. The two configurations are clearly different and, as such, it is respectfully submitted that Claim 1 cannot be anticipated by Platt. In view of the foregoing, it is respectfully requested that the Examiner withdraw the rejection of Claim 1.

Claims 2-8, 11, and 16 depend from and include the limitations of Claim 1 and are believed to be patentable for the reasons stated above for Claim 1. It is respectfully requested that the Examiner withdraw the rejection of Claims 2-8, 11, and 16.

With respect to independent Claim 17, the Office Action indicates that Platt discloses a valve needle (26) having a nearly cylindrical portion (citing the portion that connects to stem 25 for support). However, as required by Claim 17, the Examiner has failed to assert or

allege that this nearly cylindrical portion is “upstream of an axial location where the valve needle begins to taper”. For this reason alone, Claim 17 is not anticipated by Platt and is allowable.

Further, as clearly illustrated by the cross hatching in FIG. 1 of Platt, the nose 26 of Platt does not have a nearly cylindrical portion upstream of where the nose 26 begins to taper as recited in Claim 17. Referring to the clear illustration of FIG. 1, the taper in nose 26 of Platt begins where the nose and the stem 25 are coupled together. There is no nearly cylindrical area or portion of the nose 26 upstream of where the taper begins. The nearly cylindrical area upstream of where the taper of the nose 26 begins is found on the body 27 of Platt (and not the nose 26, which the Examiner has equated to the Applicant’s valve needle). The body 27 of the plug 25 and the nose 26 are clearly different components as the cross hatching in FIG. 1 of Platt illustrates. Only the body 27, and not the nose 26, includes a nearly cylindrical portion upstream of where the taper in the nose begins. No teaching or suggestion could be found in Platt of a nose with a nearly cylindrical portion upstream of where the nose begins to taper. As such, Claim 17 cannot be anticipated by Platt. In view of the foregoing, it is respectfully requested that the Examiner withdraw the rejection as to Claim 17.

Claims 19-23 depend from and include the limitations of Claim 17 and are believed to be patentable for the same reasons set forth above for Claim 17. It is respectfully requested that the Examiner withdraw the rejection of Claims 19-23.

Similar to Claims 1 and 17, independent Claim 35 recites, *inter alia*, a converging contoured restriction upstream of the nozzle throat as well as a valve needle having a nearly cylindrical area upstream of where the valve need begins to taper. For the same reasons as stated above, Claim 35 is not anticipated by Platt. Platt fails to teach or suggest the converging contoured restriction upstream of the nozzle throat. Instead, Platt teaches the converging contoured restriction upstream of a stepped or necked portion, which teaches away from a converging contoured restriction upstream of the nozzle throat. Moreover, Platt fails to teach a nearly cylindrical area of the valve needle upstream of where the valve needle begins to taper.

From the foregoing, it can be seen that Claim 35 is not anticipated by Platt. It is respectfully requested that the Examiner withdraw the rejection of Claim 35. Claims 37-40, 42, and 44 depend from and include the limitations of Claim 35 and are believed to be

patentable for the same reasons set forth above for Claim 35. It is respectfully requested that the Examiner withdraw the rejection of Claims 37-40, 42, and 44.

Rejection under 35 U.S.C. §103

The Examiner has rejected Claims 9, 10, 27-34, and 41 under 35 U.S.C. §103(a) as being unpatentable over Platt in view of U.S. Pat. App. No. 6,105,614 to Bohaychuk et al. (hereinafter “Bohaychuk”). This ground of rejection is respectfully traversed. Reconsideration of the rejection in view of the following comments is respectfully solicited.

To establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one skilled in the art, to modify the reference or combine teachings. Any proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference. There must be a reasonable expectation of success and the prior art references must teach or suggest all of the claim limitations. See M.P.E.P. 2143. Conclusory statements cannot be relied on when dealing with particular combinations of prior art and specific claims. The rationale for combining references must be put forth. *In re Lee*, 61 U.S.P.Q.2d 1430, 1433. The Examiner can satisfy the burden of showing obviousness of the combination “only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references”.

In its decision in *In re Lee*, the Federal Circuit reiterated and clarified the principle that a conclusory and ungrounded statement of motivation to combine is legally unacceptable. Specifically, the Federal Circuit noted that conclusory statements regarding motivation to combine are in violation of the PTO’s federal mandate. (See *Lee*, at 1434 (“Omission of a relevant factor [i.e., motivation to combine] required by precedent is both legal error and arbitrary agency action. ... Conclusory statements ... do not fulfill the agency’s obligation...”).) Thus, a simple statement of beneficial results that would follow from a combination is *not* a motivation to actually make the combination. The fact that a combination *can* be made to get the beneficial results that the Applicants disclosed does not amount to a motivation found *in the art* to make that very combination. See *McGinley v. Franklin Sports, Inc.* 262 F.3d 1339, 1351, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) (“The genius of invention is often a combination of known elements which in hindsight seems

preordained. To prevent hindsight invalidation of patent claims, the law requires some 'teaching, suggestion or reason' to combine cited references.")

Claims 9 and 10 both depend from independent Claim 1. As previously noted, Platt fails to disclose a converging contoured restriction that is upstream of the nozzle throat. No teaching or suggestion of a converging contoured restriction could be found in Bohaychuk. Therefore, the combination of Bohaychuk with Platt does not cure this deficiency. As such, it is respectfully submitted that both Claims 9 and 10 are not obvious and are patentable. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claims 9 and 10.

Independent Claim 27 has been amended to more clearly define the invention. As amended, Claim 27 recites, inter alia, that the valve needle has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. As previously noted, Platt fails to disclose a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Bohaychuk. Therefore, the combination of Bohaychuk with Platt does not cure this deficiency. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claim 27.

Claims 28-34 depend from independent Claim 27. As previously noted, Platt fails to disclose a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Bohaychuk. Therefore, the combination of Bohaychuk with Platt does not cure this deficiency. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claims 28-34.

Claim 41 depends from independent Claim 35. As previously noted, Platt fails to disclose a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Bohaychuk. Therefore, the combination of Bohaychuk with Platt does not cure this deficiency. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claim 41.

In addition, with regard to each of Claims 9, 10, 27-34, and 41, the Applicant respectfully submits that a prima facie case of obviousness has not been established as required by MPEP §2143.03. In particular, the Examiner has indicated that Bohaychuk teaches an inlet that has a cross sectional area adjacent the inlet that is smaller than the cross sectional area of the inlet pipe. The Examiner has cited Figure 9 of the reference in support of this alleged teaching. However, the Applicants submit that nowhere in Figure 9 of Bohaychuk is there shown an inlet pipe connected to the inlet of the valve. Since there is no inlet pipe shown, no comparison of cross sectional areas can be made and it would be impossible to determine if one cross sectional area is smaller than another as recited in the pending claims. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claims 9, 10, 27-34, and 41.

The Examiner has rejected Claims 13 and 24 under 35 U.S.C. §103(a) as being unpatentable over Platt in view of U.S. Pat. App. No. 4,721,284 to Bankard (hereinafter "Bankard"). This ground of rejection is respectfully traversed. Reconsideration of the rejection in view of the following comments is respectfully solicited.

Claim 13 depends from dependent Claim 11 as well as independent Claim 1. As previously noted, Platt fails to disclose both a converging contoured restriction that is upstream of the nozzle throat and a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a converging contoured restriction that is upstream of the nozzle throat or a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Bankard. Therefore, the combination of Bankard with Platt does not cure either of these two separate deficiencies. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claim 13.

Claim 24 depends from independent Claim 17. As previously noted, Platt fails to disclose a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a converging contoured restriction that is upstream of the nozzle throat or a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Bankard. Therefore, the combination of Bankard with Platt does not cure this deficiency. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claim 24.

The Office Action has rejected Claims 12, 14, 15, 18, 25, 26 and 36 under 35 U.S.C. §103(a) as being unpatentable over Platt in view of U.S. Pat. App. No. 4,707,278 to Breyer et al. (hereinafter "Breyer"). This ground of rejection is respectfully traversed. Reconsideration of the rejection in view of the following comments is respectfully solicited.

Claims 12, 14, and 15 depend from independent Claim 1. As previously noted, Platt fails to disclose a converging contoured restriction that is upstream of the nozzle throat. No teaching or suggestion of a converging contoured restriction that is upstream of the nozzle throat could be found in Breyer. Therefore, the combination of Breyer with Platt does not cure this deficiency. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claims 12, 14, and 15.

Claims 18, 25, and 26 depend from independent Claim 17. As previously noted, Platt fails to disclose a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Breyer. Therefore, the combination of Breyer with Platt does not cure this deficiency. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claims 18, 25, and 26.

Claim 36 depends from independent Claim 35. As previously noted, Platt fails to disclose both a converging contoured restriction that is upstream of the nozzle throat and a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a converging contoured restriction that is upstream of the nozzle throat or a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Breyer. Therefore, the combination of Breyer with Platt does not cure either of these two separate deficiencies. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claim 36.

Finally, the Office Action has rejected Claim 43 under 35 U.S.C. §103(a) as being unpatentable over Platt in view of U.S. Pat. App. No. 3,889,537 to Khuzaie (hereinafter "Khuzaie"). This ground of rejection is respectfully traversed. Reconsideration of the rejection in view of the following comments is respectfully solicited.

Claim 43 depends from independent Claim 35. As previously noted, Platt fails to disclose both a converging contoured restriction that is upstream of the nozzle throat and a

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valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper. No teaching or suggestion of a converging contoured restriction that is upstream of the nozzle throat or a valve needle that has a nearly cylindrical area upstream of an axial location where the valve needle begins to taper could be found in Khuzaie . Therefore, the combination of Breyer with Khuzaie does not cure either of these two separate deficiencies. In view of the foregoing, it is respectfully submitted that the Examiner withdraw the rejection of Claim 35.

Extension of Time

A one-month extension of time is believed to be required and an extension fee of \$110.00 is believed to be due. The Examiner is authorized to charge deposit account \$110.00 for the extension fee as well as any other fee that is properly due and payable.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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Date: October 11, 2005

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APPENDIX

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AMENDMENTS TO THE DRAWINGS

A replacement sheet of drawings, which includes changes to FIG. 6, has been attached to this Amendment and has been labeled "Replacement Sheet". See the Remarks section for a discussion on the changes.

A marked up copy of the drawings highlighting the changes to FIG. 6 has also been attached to this Amendment for the convenience of the Examiner and has been labeled "Annotated Marked-up Drawings".



High Recovery Sonic Gas Valve
Annotated Marked-Up Drawings

Application No. 10/796,811 Reply to Office Action of June 14, 2005
Attorney Docket No. 502724, Telephone (815) 484-1900

FIG. 5b

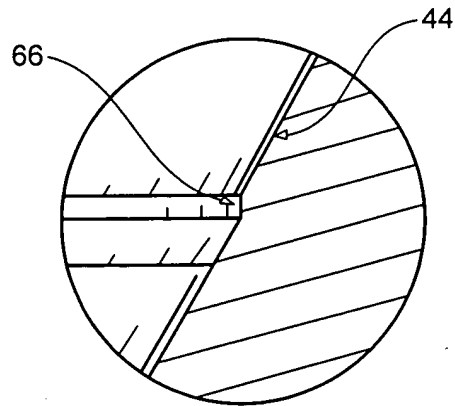


FIG. 6

